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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

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In the Matter of)

Petition for Allocation of Spectrum for
the Provision of Wireless Fixed Access
Local Loop Services)

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Rm No. 8837

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

COMMENTS OF LUCENT TECHNOLOGIES INC.

Lucent Technologies Inc. ("Lucent") hereby comments on the Petition for Rulemaking ("Petition") filed by DSC Communications Corporation ("DSC") on June 10, 1996. DSC seeks a spectrum allocation for wireless local loop ("WLL") services.¹

Lucent is a leading supplier and innovator of wireless networking equipment and related products, software and microprocessors. In the area of wireless local loop, Lucent has taken an active role in the development of the technology and related equipment.² Lucent also has several research projects relating to WLL underway. Thus, Lucent has a strong interest in ensuring that there is adequate spectrum available for WLL and related services.

¹ As a technical matter, DSC seeks an allocation for "wireless fixed access-local loop" ("WFA-LL") service -- a service DSC defines as a type of WLL. For the purposes of these comments, Lucent will refer to WLL services generally. Thus, the reference to WLL in these comments shall include WFA-LL or any other type of WLL.

² For example, Lucent manufactures both a Time Division Multiple Access ("TDMA")- based wireless local loop offering called SWING, as well as a Code Division Multiple Access ("CDMA")-based system called AirLoop™. The deployment of these products is presently being focused in non-U.S. markets.

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Lucent supports an allocation of additional spectrum for WLL as well as other future services that the marketplace may demand.³ The Commission's recent action in WT Dkt. 96-6 granting commercial mobile radio services ("CMRS") providers flexibility to offer fixed services was a significant step toward making WLL a reality in the United States.⁴ However, with the increased development of broadband telecommunications services, as well as the expansion of local facilities-based competition resulting from the Telecommunications Act of 1996, it is questionable whether the existing CMRS frequencies will be sufficient to support the rising demand for both mobile and fixed services.

While Lucent encourages the Commission to begin a review of additional spectrum that may be available for WLL and other future services, Lucent is concerned about some of the particular frequencies identified by DSC in its Petition. In particular, the 2.4 GHz band identified by DSC appears to be ill-suited for WLL. There is an enormous embedded base of industrial, scientific and medical ("ISM") equipment, such as microwave ovens and industrial lighting devices. Unlicensed devices and services operating under Part 15 also share this band. In addition, the P802.11 subcommittee of the IEEE is in the final stages of establishing a standard for wireless local area network ("LANs") in the 2.4 GHz band. The deployment of these systems, such as Lucent's WaveLAN™ line of wireless LAN products, is expected to rapidly increase. The

³ Lucent would support a flexible regulatory framework for any WLL allocation, thereby allowing the service provider to adequately respond to marketplace demands.

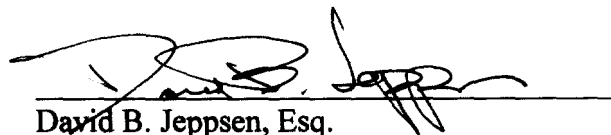
⁴ See, Flexible Service Offerings in the Commercial Mobile Radio Services, FCC 96-283 (released August 1, 1996).

allocation of licensed WLL services in this band would create a significant potential for harmful interference both to and from the ISM equipment and unlicensed devices co-sharing the band. Therefore, the 2.4 GHz band does not appear to be a feasible option for WLL or other new licensed services.⁵

Given the strong interest in the industry in obtaining an additional allocation for WLL, but yet considering the challenging task of identifying spectrum that is both technically and economically feasible, Lucent suggests that prior to initiating a rulemaking proceeding on an additional allocation, the Commission convene a series of industry forums to discuss the need for and availability of spectrum for WLL as well as other future services. Such forums would expand upon the valuable insights learned at the Commission's May 5, 1996 Spectrum *En Banc* Hearing, which addressed future spectrum demands and technology trends. The forums would also present an opportunity to examine the particulars of DSC's proposal. The goal of the forums would be to gather information and identify spectrum that could feasibly be allocated for WLL and other future services.

Respectfully submitted,

LUCENT TECHNOLOGIES INC.



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⁵ The Commission has already declined to allocate licensed commercial services in the 2.4 GHz band due to the difficulties of co-sharing with Part 15 devices. See Allocation of Spectrum Below 5 GHz Transferred From Federal Government Use, 9 FCC Rcd 4769, 4786-87 (1995). However, the Commission has also clarified that wireless local loop services can be provided on an unlicensed basis in the 2.4 GHz band provided that the equipment complies with the technical requirements of Part 15. *Id.*

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